UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,938	03/26/2008	Inseong Hwang	126587-0034	6860

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EXAMINER
FINDLEY, CHRISTOPHER G

ART UNIT	PAPER NUMBER
2621	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	**Applicant(s)**
	10/552,938	HWANG ET AL.
Office Action Summary	**Examiner**	**Art Unit**	
	CHRISTOPHER FINDLEY	2621	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-22</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-5, 10-16, 21 and 22</u> is/are rejected.

7)☒ Claim(s) <u>6-9 and 17-20</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☒ All b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____ .

   3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date <u>10/11/2005</u>.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   **Claims 1-5, 10-16, 21, and 22 are rejected under 35 U.S.C. 102(e) as being**

anticipated by Hong (US 20030142749 A1)

        The applied reference has a common inventor with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes

prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be

overcome either by a showing under 37 CFR 1.132 that any invention disclosed

but not claimed in the reference was derived from the inventor of this application

and is thus not the invention "by another," or by an appropriate showing under

37 CFR 1.131.

        Re **claim 1**, Hong discloses a method for determining a search range for an

adaptive motion vector in a video encoder, the video decoder receiving input image

signals representing a continuity of images, and dividing images of the input image

signals into a plurality of macro blocks (MBs) so as to estimate a movement of a motion

vector of a macro block for encoding images, the method comprising the steps of:(a)

determining the number of neighboring blocks adjacent to a current macro block (Hong:
Fig. 2, step S21, finding motion vector values inherently involves determining the
number of blocks for which values are being determined);(b) determining a motion
vector having the greatest movement by finding magnitudes of motion vectors of the
neighboring blocks, if the number of the neighboring blocks is greater than 2 (Hong: Fig.
2 and paragraph [0028]);(c) defining a minimum value of the search range for the
adaptive motion vector of the current macro block (Hong: Fig. 2, step S23 and
paragraph [0028]);(d) comparing a double of a magnitude of the motion vector with the
greatest movement determined at step (b) with the minimum value of the search range
for the adaptive motion vector found at step (c) so as to determine a larger value as a
value of the search range for the adaptive motion vector (Hong: Fig. 2, step S24 and
paragraph [0028]); and(e) comparing the value of the search range for the adaptive
motion vector found at step (d) with a value of the search range for the adaptive motion
vector defined by a user so as to determine a smaller value as a value of a search
range of a final adaptive motion vector (Hong: Fig. 2, step S25 and paragraph [0028]).

Re **claim 2**, Hong discloses that, in step (b), the magnitudes of the motion
vectors of the neighboring blocks are found by extracting horizontal and vertical
components of the motion vectors of the neighboring blocks (Hong: paragraph [0028]).

Re **claim 3**, Hong discloses that, in step (c), the minimum value of the search
range for the adaptive motion vector varies depending on a sum of the magnitudes of
the motion vectors of the neighboring blocks (Hong: paragraph [0028]).

Re **claim 4**, Hong discloses that, when the sum of the magnitudes of the motion vectors of the neighboring blocks is equal to `0`, the minimum value of the search range for the adaptive motion vector is set to a predetermined value, which is obtained by adding a predetermined constant to the value of the search range for the adaptive motion vector defined by a user, and then, dividing a resultant value of the search range for the adaptive motion vector by four (Hong: equation (2)).

Re **claim 5**, Hong discloses that the predetermined constant is `2` (Hong: equation (2)).

Re **claim 10**, Hong discloses that the value of the search range for the adaptive motion vector defined by a user is a default value set by the user in order to prevent an error when starting an encoding process (Hong: paragraph [0012], deciding a minimum value of the maximum search range value for the motion vector of the specific block and a search range value previously defined by a user, as a final maximum search range value for the motion vector of the specific block, thus indicating the user selected range is a default).

Re **claim 11**, Hong discloses that the value of the search range for the adaptive motion vector defined by a user is determined as the value of the search range for the final adaptive motion vector, if the number of the neighboring blocks is less than one (Hong: paragraph [0012], deciding a minimum value of the maximum search range value for the motion vector of the specific block and a search range value previously

defined by a user, as a final maximum search range value for the motion vector of the specific block, thus indicating the user selected range is a default).

Claim 12 recites the corresponding apparatus for implementing the method of claim 1, and therefore claim 12 has been analyzed and rejected with respect to claim 1 above.

Claim 13 has been analyzed and rejected with respect to claim 2 above.

Claim 14 has been analyzed and rejected with respect to claim 3 above.

Claim 15 has been analyzed and rejected with respect to claim 4 above.

Claim 16 has been analyzed and rejected with respect to claim 5 above.

Claim 21 has been analyzed and rejected with respect to claim 10 above.

Claim 22 has been analyzed and rejected with respect to claim 11 above.

Allowable Subject Matter

3.　Claims 6-9 and 17-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:　The prior art of record fails to fairly teach or suggest the particular values and mathematical relationships recited in the claims listed above.　These particular values

and mathematical relationships are supported in the Applicant's specification by

Equation 5.

Contact

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to CHRISTOPHER FINDLEY whose telephone number is

(571)270-1199. The examiner can normally be reached on Monday-Friday (8:30 AM-

5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Marsha D. Banks-Harold can be reached on 571-272-7905. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Marsha D. Banks-Harold/

Supervisory Patent Examiner, Art Unit 2621

/Christopher Findley/